Catalogue no. 75-006-X
ISSN 2291-0840

Insights on Canadian Society

Differences in the location of study of university-educated immigrants

by Darcy Hango, Lynn Hamilton, Sarah Jane Ferguson and John Zhao

Release date: September 15, 2015

Statistics Canada Statistique Canada

Canada

How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website, www.statcan.gc.ca.

You can also contact us by

email at infostats@statcan.gc.ca

telephone, from Monday to Friday, 8:30 a.m. to 4:30 p.m., at the following toll-free numbers:

- Statistical Information Service 1-800-263-1136
- National telecommunications device for the hearing impaired 1-800-363-7629
- Fax line 1-877-287-4369

Depository Services Program

- Inquiries line 1-800-635-7943
- Fax line 1-800-565-7757

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed standards of service that its employees observe. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on www.statcan.gc.ca under "Contact us" > "Standards of service to the public."

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued co-operation and goodwill.

Standard table symbols

The following symbols are used in Statistics Canada publications:

. not available for any reference period
.. not available for a specific reference period
... not applicable
0 true zero or a value rounded to zero
0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p} preliminary
^{r} revised
x suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E} use with caution
F too unreliable to be published
* significantly different from reference category ($p < 0.05$)

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2015

All rights reserved. Use of this publication is governed by the Statistics Canada Open Licence Agreement.

An HTML version **is also available.**

Cette publication est aussi disponible en français.

Differences in the location of study of university-educated immigrants

by Darcy Hango, Lynn Hamilton, Sarah Jane Ferguson and John Zhao

Overview of the study

This article examines the differences in the location of study of immigrant adults aged 25 to 64 with a university education (i.e., with at least a bachelor's degree). It provides results by period of immigration (pre-1990, the 1990s, and the 2000s) and provides a more in-depth analysis of factors that are linked to the location of study for the most recent cohort of immigrants (i.e., those who immigrated in 2000 or later).

- In 2011, 75% of university-educated immigrants received their highest degree outside the country, while 25% obtained their highest degree in Canada. Of the 75% with a foreign degree, 64% obtained it from their birth country and 11% obtained it from a third country (i.e., neither their country of birth nor Canada).
- Of the 1.3 million university-educated immigrants aged 25 to 64, close to 750,000 entered the country in 2000 or later. Among these 'recent immigrants', 83% obtained their highest degree outside Canada, and 17% obtained their highest degree in Canada.
- Of the top-12 source countries for recent immigrants with a university education, those from the Philippines were the most likely to have studied in their birth country (at 95%). Conversely, immigrants from China and Iran were the least likely to have obtained their highest degree in their birth country (at 68%).
- Of the top-12 source countries for recent immigrants with a university education, those who were from France (23%) and Algeria (13%) were the most likely to have received their highest degree in Quebec, illustrating the close ties between language and location of study.
- Differences in the location of study between source countries remained for recent immigrants even after taking other background factors into account, including mother tongue, gender, field of study and type of degree.

Introduction

According to the 2011 National Household Survey (NHS), immigrants accounted for 21% of Canada's overall population, and among those who immigrated to Canada between 2001 and 2011, 41% held a bachelor's degree or higher.[1] Yet immigrants are less likely than the Canadian-born to be employed,[2] and those who are employed are more likely to be overqualified relative to their occupation.[3] They are also less likely to be working in an occupation that matches their field of study.[4] The degree to which immigrants experience these disadvantages varies according to how long they have been living in Canada, with more established immigrants (those who have lived in Canada 10 years or more) showing higher employment rates[5] and education-to-occupation match rates[6] than immigrants who have not been in Canada as long.

Other researchers have observed a decline in earnings of successive cohorts of immigrants over the last several decades and an increase in low-income rates since the 1980s.[7] Several factors affecting the deterioration of immigrants' economic outcomes have been noted, including the shift in immigrants' composition from traditional European source countries and the United

States to countries in Asia, Africa and Latin America, and the associated real and perceived changes in immigrants' language, racial/ethnic and cultural background, as well as the quality and relevance of their education to the Canadian labour market.[8] Other factors include the decline in the rate of return to pre-immigration labour market experience, and unfavourable labour market conditions for new entrants—the Canadian-born and immigrants alike.

Many factors have been identified as being important for the successful labour market integration of immigrants to Canada. The location of study of the highest degree earned, in particular, has been singled out by several researchers. Their studies indicate that immigrants who receive their highest degree in Canada share similar portability and comparability of their credentials in the marketplace with their Canadian-born counterparts.[9] Studies conducted in other countries generally present similar conclusions—immigrants who obtained their degrees abroad have worse labour market outcomes than those who obtained their degrees in their adopted country.[10]

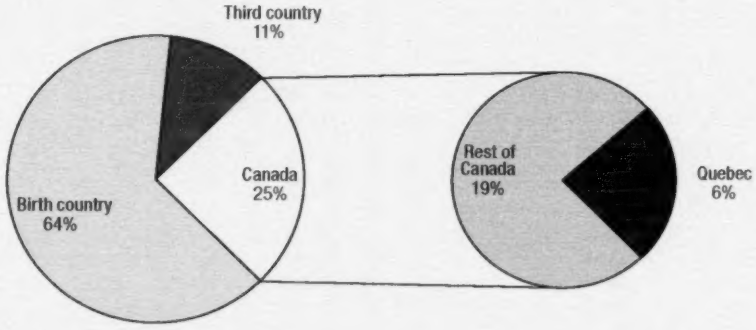
This paper uses the National Household Survey (NHS) to study the location of study of foreign-born university graduates in Canada among adult immigrants aged 25 to 64, and who immigrated at age 17 or later (see *Data sources, methods and definitions*). In the first section of this paper, descriptive analyses present the location of study of university-educated immigrants by various characteristics, with a special focus on country of origin. In the second section, further to the analysis in the first section and using multivariate analyses to take other background factors into consideration, this paper examines whether source country differences in the location of study of recent immigrants remain when other factors are considered together in a probability model. Recent immigrants are chosen as they are the most relevant group for policy reasons related to recent education and labour market policy. In addition, the majority of university educated immigrants in Canada are recent immigrants.

Where are university-educated immigrants getting their degrees?

The location of study of university-educated immigrants can be grouped into two broad categories: (1) outside Canada and (2) inside Canada. These two groups can be further separated into four components: (1) the birth country of the immigrant, (2) a third country (i.e., not the country of birth or Canada), (3) Quebec, and (4) the rest of Canada. Studying in Canada is split into Quebec and the rest of Canada, owing in large part to the different countries of origin of immigrants, mother tongue, as well as the potential for different labour market outcomes of those studying in Quebec versus the rest of Canada.[11] Readers should note that all third countries are grouped together even though they may include a heterogeneous mix of industrialized and less-industrialized parts of the world, with different linguistic origins and educational systems.

In 2011, three-quarters of university-educated immigrants to Canada earned their highest degree outside Canada—64% were obtained in the immigrant's country of birth and 11% in a third country (Chart 1). About one-quarter earned their degrees in Canada, of which 6% were from Quebec and 19% from the rest of Canada. However, these proportions may vary depending on the characteristics of immigrants. These characteristics include factors such as the period of immigration and immigrants' country of origin. These factors are discussed in more detail in the following sections.

Chart 1
Location of study of university-educated immigrants, aged 25 to 64, who immigrated to Canada at age 17 or over



Source: Statistics Canada, National Household Survey, 2011.

University-educated immigrants and period of immigration

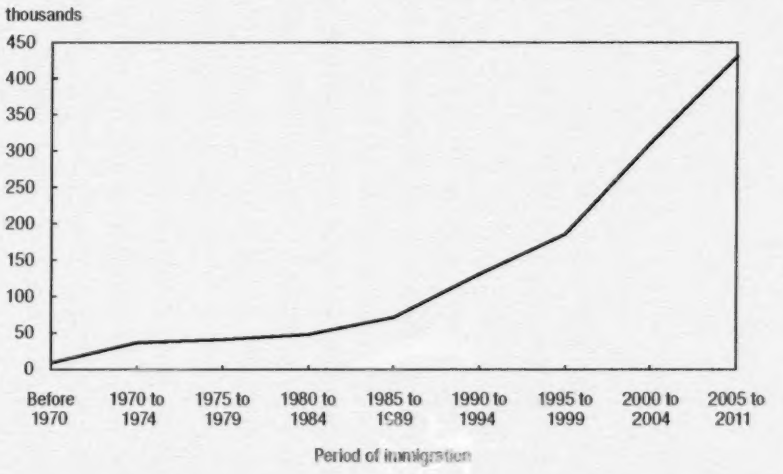
Of all university-educated immigrant adults in 2011 (representing about 1.3 million individuals aged 25 to 64), about 6 in 10 entered the country in 2000 or later (Chart 2). This trend reflects not only rising education levels among younger populations, but also immigration policies more favourable to, or more selective of, those with higher levels of education.[12]

The relationship between location of study and source country can be examined across three separate periods of immigration: (1) pre-1990, (2) 1990–1999, and (3) 2000–2011. Those who immigrated earlier were more likely to have obtained their degrees in Canada. More precisely, among immigrants who arrived before 1990, 47% obtained their highest university degree in Canada. Among those who arrived during the 1990s, this percentage was 28%, while for recent immigrants (those who arrived in 2000 or later) it was 17%.

The share of university-educated immigrants who received their highest degree, however, may vary by source country. Focusing on the composition of the top-12 largest source countries is revealing. In each of the three periods, the top 12 countries were the source of more than 60% of all university-educated immigrants in Canada.

During the pre-1990 years, the largest group of university-educated immigrants came from India, followed closely by the United States and Hong Kong, which together accounted for 27% of all university-educated immigrants during this period (Table 1).

Chart 2
Number of university-educated immigrants by period of immigration



Note: 59% of immigrants who entered the country in 2000 or after were university educated.
Source: Statistics Canada, National Household Survey, 2011.

The location of study varied considerably by source country among immigrants who arrived in the pre-1990s. Among those who came from the Philippines, for example, nearly 9 in 10 obtained their degrees outside Canada. Other countries with a relatively large proportion of immigrants holding a foreign degree included Poland (78%) and India (76%). In contrast, Hong Kong had the lowest proportion of university-educated people with a foreign degree (24%), followed by immigrants from Vietnam (27%).

During the 1990s, the composition of the top 3 source countries shifted to China, followed by India and the Philippines, which together accounted for 31% of all university-educated immigrants during this period. The United States dropped to twelfth on the list while the United Kingdom—fourth in the pre-1990 years—did not make the top 12 during the 1990s.[13] Among the top 12 countries, the Philippines continued to have the highest proportion of immigrants with a degree from outside Canada (at 90%), followed by the Russian Federation (89%) and Pakistan (84%). Of all 12 source countries, immigrants from Hong Kong continued having the lowest proportion with foreign degrees (41%) despite having a higher proportion than their counterparts who came to Canada before 1990.

In the most recent immigration period since 2000, the three source countries with the highest numbers remained China, India and the Philippines. These three countries made up almost 40% of all university-educated immigrants who came during this period.[14]

Table 1
Location of study of university-educated immigrants, by source country and period of immigration

	Weighted frequency	All immigrants in this period	Location of study: Outside Canada	Location of study: Inside Canada
	number		percentage	
Period of immigration: Pre-1990				
Top 12 source countries				
1. India	19,590	9.6	75.7	24.3
2. United States	18,590	9.1	55.7	44.3
3. Hong Kong	17,910	8.8	24.4	75.6
4. United Kingdom	16,480	8.1	51.8	48.2
5. Philippines	16,330	8.0	88.8	11.2
6. Poland	9,530	4.7	77.6	22.4
7. China	8,400	4.1	40.1	60.0
8. Vietnam	6,150	3.0	27.1	72.9
9. Iran	5,120	2.5	51.1	48.9
10. France	3,900	1.9	41.8	58.2
11. Egypt	3,380	1.7	54.2	45.8
12. Lebanon	3,080	1.5	42.4	57.6
All countries	203,970	100.0	52.7	47.3
Period of immigration: 1990s				
Top 12 source countries				
1. China	36,200	11.5	66.8	33.3
2. India	31,180	9.9	80.9	19.1
3. Philippines	30,560	9.7	90.4	9.6
4. Hong Kong	15,960	5.1	41.4	58.6
5. Pakistan	11,300	3.6	84.0	16.0
6. Iran	11,190	3.5	69.5	30.5
7. Russian Federation	10,190	3.2	89.0	11.0
8. Romania	10,170	3.2	79.6	20.4
9. Taiwan	8,870	2.8	77.9	22.1
10. South Korea	8,770	2.8	82.1	17.9
11. Poland	7,760	2.5	77.9	22.1
12. United States	7,520	2.4	74.4	25.6
All countries	315,790	100.0	71.8	28.2
Period of immigration: 2000s				
Top 12 source countries				
1. China	108,040	14.6	75.9	24.1
2. India	97,670	13.2	89.5	10.5
3. Philippines	78,670	10.6	96.4	3.6
4. Pakistan	32,970	4.4	87.8	12.2
5. Iran	27,790	3.7	79.3	20.7
6. South Korea	21,990	3.0	86.6	13.4
7. Romania	18,730	2.5	84.1	15.9
8. United States	17,820	2.4	84.1	15.9
9. Russian Federation	17,330	2.3	89.0	11.0
10. Algeria	15,640	2.1	86.1	13.9
11. Colombia	15,630	2.1	84.5	15.5
12. France	15,000	2.0	74.4	25.6
All countries	742,070	100.0	83.5	16.5

Note: Weighted frequencies have been rounded to the nearest 10.
Source: Statistics Canada, National Household Survey, 2011.

The country with the highest proportion of foreign-educated immigrants was again the Philippines (96%). At the other end of the spectrum, France (74%) and China (76%) had the lowest proportions. However, the top 12 countries were separated by fewer differences than those who arrived in the 1990s and before 1990.

Across all three immigrant-arrival cohorts, four countries consistently made the top 12 list: India, the Philippines, China and Iran. Each of these countries showed an increase over time in the number of highly educated immigrants entering Canada, particularly China, which saw its number of university-educated immigrants increase from less than 10,000 during the pre-1990 years to more than 100,000 in the 2000s.

For all four countries, the most recent cohort had the highest percentage of immigrants with a degree from outside Canada. The cross-cohort variations were smaller for the Philippines—the proportion varied between 89% in the pre-1990 years to 96% in the post-2000 years.[15] Among Chinese immigrants, in contrast, the rate varied from 40% in the pre-1990 years to 76% during the post-2000 period. Such differences could indicate that more time spent in Canada is associated with a higher probability of completing a Canadian degree,[16] but they could also be due to cohort-specific effects.

Even in the most recent cohort of immigrants, however, the top 12 countries were still characterized by significant differences in location of study. In the remainder of this paper,

the focus will be on the most recent cohort of immigrants (who arrived in 2000 or later), also called "recent immigrants". Since a Canadian degree often represents a key ingredient of labour market integration among recent immigrants, and given that immigrants who arrived after 2000 accounted for 59% of the total university-educated immigrant population in Canada, examining the factors associated with the probability of having a Canadian degree is particularly important for this population.

Location of study differences by source country of recent immigrants

In this section, the focus is on the most recent cohort of immigrants distributed across four locations of study, broken down by whether the highest degree was obtained inside or outside Canada: (1) birth country, (2) a third country other than Canada or the country of birth, (3) Quebec, and (4) the rest of Canada.

Of the top 12 source countries with the largest number of immigrants in the 2000s, those who came from the Philippines (the third-largest source country of recent university-educated immigrants to Canada) were the most likely to study outside Canada (96%)—95% studied in the Philippines and 1% studied in a third country (Table 2). In contrast, immigrants from France were the least likely to study outside Canada (74%)—69% studied in France and 5% studied elsewhere. India and Pakistan, the second- and fourth-largest source countries of university-educated immigrants to Canada, respectively, had a similar pattern of location of study as the Philippines—close to 90% received their highest degree outside Canada, with the vast majority of these degrees obtained in the immigrants' country of birth. Of note, 76% of Chinese immigrants (who made up the largest sending country of university-educated immigrants to Canada between 2000 and 2011) obtained their highest degree outside Canada—68% of whom obtained their degree in China and 8% in a third country.

Among immigrants who studied in a third country, those born in the Russian Federation were the most likely to study in a country other than their country of birth or Canada (19%). Some of this higher proportion may be due to the dissolution of the U.S.S.R., which ceased to exist in 1991. Otherwise put, some of these immigrants may have studied in different republics within the former U.S.S.R., which are now separate countries.[17]

Algeria and Iran also had a proportionately higher share of immigrants who studied in a third country (12% and 11%, respectively). More than two thirds of Algerian graduates who studied in a third country obtained their highest degree in France prior to immigrating to Canada, which illustrates the likely importance of language on location of study. Meanwhile, Iranian immigrants who studied in a third country did so most frequently in the United States (27%), followed by the United Kingdom (16%) and France (9%).

Of the recent immigrants who obtained their highest degree in Canada, 72%[18] studied in a province other than Quebec—Ontario was the most common provincial destination, followed by British Columbia and Alberta. Location of study in Canada by the foreign-born appears to be split along linguistic lines. For example, immigrants from France and Algeria have the highest proportions that studied in Quebec (23% and 13%, respectively). Meanwhile, immigrants from China had the highest proportion of immigrants who studied in the rest of Canada (at 20%).[19]

Table 2
Location of study of recent[1] university educated immigrants, by source country

	Birth country	Third country	Rest of Canada	Quebec
	percentage			
Top 12 source countries				
1. China	68.2	7.7	20.3	3.8
2. India	84.2	5.3	9.8	0.7
3. Philippines	95.3	1.2	3.5	0.1[E]
4. Pakistan	78.2	9.6	11.3	0.9
5. Iran	68.2	11.0	17.0	3.7
6. South Korea	79.8	6.8	12.1	1.4
7. Romania	80.7	3.4	6.9	9.1
8. United States	81.4	2.6	12.5	3.5
9. Russian Federation	69.6	19.4	8.9	2.1
10. Algeria	74.0	12.1	1.0	12.8
11. Colombia	78.1	6.4	8.7	6.8
12. France	69.1	5.3	2.8	22.9
All other countries	61.5	18.6	12.9	7.0

[E] use with caution

1. University-educated immigrants aged 25 to 64 who immigrated to Canada between 2000 and 2011 and who were aged at least 17 at the time of immigration.

Source: Statistics Canada, National Household Survey, 2011.

Relationship between mother tongue and location of study

Many other background factors (part of an immigrant's life prior to immigration) may also influence the location of study. Of the variables measured in the NHS, two background factors that could impact the decision about where to study are gender and mother tongue. Men and women not only have unequal attendance and graduation rates from postsecondary institutions across the world, but also have a different propensity to emigrate from their country of birth.[20] Mother tongue also has a substantial impact on the location of study as native French speakers may be more likely to choose end destinations with a common linguistic history. Similarly, native Anglophones are more likely to choose countries/regions of study where English is the dominant language. Immigrants whose mother tongue is neither English nor French, meanwhile, may be more likely to remain in their country of birth to study.

Among recent immigrants, mother tongue was significantly associated with the location of the highest university degree. More precisely, about 24% of immigrants whose mother tongue is French studied in Quebec, whereas only about 2% of immigrants whose mother tongue is English studied in Quebec (Chart 3). In contrast, about 15% of recent immigrants whose mother tongue is English studied in a province other than Quebec, whereas 4% of Francophone immigrants obtained their highest degree outside Quebec.

Moreover, studying in a third country also appears to be slightly favoured by Francophone immigrants as 17% chose a third country for their highest degree, compared with about 11% for those whose mother tongue is English or another language. Immigrants whose mother tongue is French and who obtained a degree in a third country mainly chose France as that third country (43% chose France). It should be kept in mind, however, that of all university-educated immigrants who entered Canada since 2000, 5% listed French as their mother tongue, while the vast majority (81%) had neither French nor English as their mother tongue.

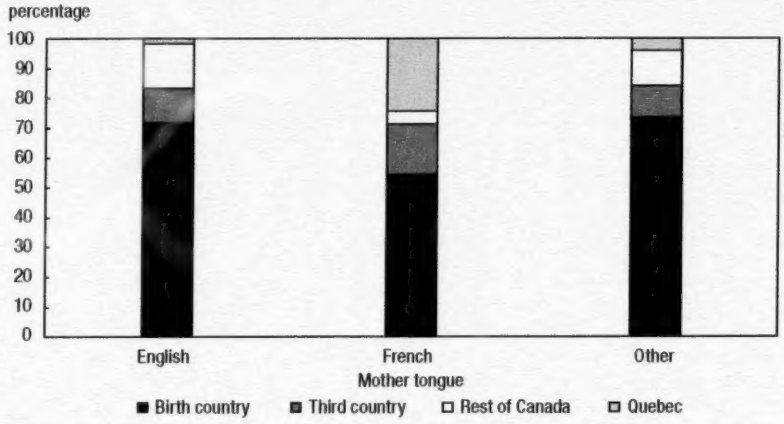
In terms of gender, among recent immigrants to Canada, women had a higher probability than men of studying in their country of birth.[21] In addition, men were slightly more likely than women to study in Canada or in a third country.

Other factors related to location of study

Other factors that may be related to location of study for recent immigrants and that are measurable with NHS data include the type of university degree obtained (or the highest level of educational attainment, such as a bachelor's or master's degree or a PhD) and field of study.

The level of education is an important consideration for labour market success for both the Canadian-born and immigrant population. Previous research has found that immigrants with a university degree higher than a bachelor degree obtained a job match (i.e., they were more likely to find a job in Canada that matched their level of education and intended occupation prior to migration)

Chart 3
Location of study of recent[1] university-educated immigrants, by mother tongue



1. University-educated immigrants aged 25 to 64 who immigrated to Canada between 2000 and 2011 and who were aged at least 17 at the time of immigration.

Note: Respondents with more than one mother tongue were considered as "French" or "English" if they listed one official language and a non-official language as their mother tongue. A very small portion of respondents listed both English and French as mother tongues. These were allocated on the basis of country of birth and location of study information.

Source: Statistics Canada, National Household Survey, 2011.

quicker than those who only had a bachelor's degree. The main reason is that higher levels of education are valued more in the labour market among employers regardless of whether they are needed, and this may be even more important for the immigrant population educated outside Canada.[22]

Among recent immigrants, 79% of those whose highest degree was at the bachelor's level obtained it in their country of birth, compared with 60% of recent immigrants who obtained a master's degree or higher in their country of birth. At the same time, the accumulation of education higher than a bachelor's degree is more common among immigrants who studied outside their country of birth—whether the advanced degree was obtained in Canada or a third country.

The chosen field of study has important implications for the labour market since not all fields of study yield the same returns.[23] Graduates from the science, technology, engineering, mathematics and computer science fields (also known as 'STEM' fields) typically have higher earnings than graduates from humanities, arts and social science programs. Therefore, it is important to know in what field of study immigrants are obtaining their highest degree.

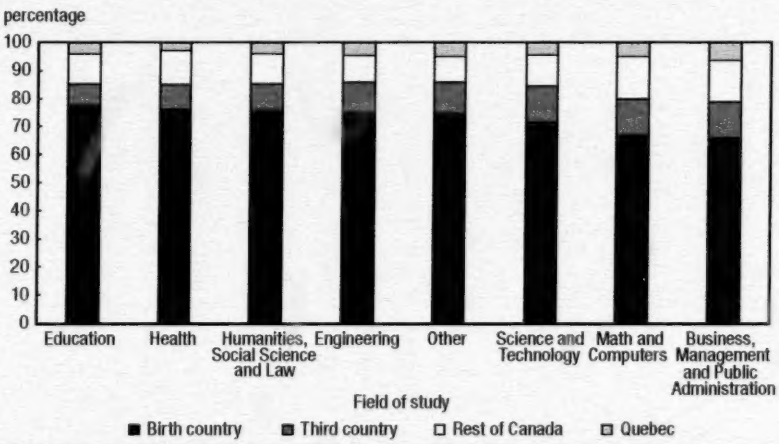
Across the entire cohort of immigrants who arrived since 2000, the most common field of study was business, management and public administration (22%), while the least common was education (5%). Other important fields of study among recent immigrants included engineering (21%) and the humanities, social sciences and law (19%).

Recent immigrants whose higher degrees were in business, management and public administration were more likely to have a Canadian degree as were those who had a degree in mathematics and computer science (Chart 4). In both cases, about one in five had a degree from Canada. These two fields also had the largest proportions of immigrants who studied in third countries, as did those with a degree in science and technology (13% each). Immigrants who had degrees from other fields of study were more likely to have studied in their birth country, with percentages above 75%.

Lastly, there is a link between age at immigration and location of study. As expected, immigrants who arrived at a younger age are more likely to have a Canadian degree than those who arrived later. Among recent immigrants who immigrated to Canada between the ages of 17 and 24, almost half (47%) completed their highest degrees in Canada. This proportion decreases to less than one fifth (19%) among those who immigrated to Canada between the ages of 25 and 34, and to less than one in ten (8%) among those who arrived between the ages of 35 and 44.

Such results support the idea that immigrants who arrive later in age are less likely to engage in post-secondary studies in Canada, but may also reflect a reverse causality effect whereby the location of study may also impact the age at immigration. This is because many immigrants enter the country first on the basis of a study permit, and eventually become immigrants after the completion of a degree in Canada.[24]

Chart 4
Location of study of recent[1] university-educated immigrants, by field of study



1. University-educated immigrants aged 25 to 64 who immigrated to Canada between 2000 and 2011 and who were aged at least 17 at the time of immigration.

Note: The categories "Science and Technology", "Math and Computers" and "Engineering" are based on the Statistics Canada recommended standard on STEM, while the other categories are based on the primary groupings of the 2011 Classification of Instructional Programs. See *Data sources, methods and definitions* for additional details.

Source: Statistics Canada, National Household Survey, 2011.

Location of study differences between source countries remain even after accounting for other factors

Previous sections indicated that a number of characteristics may affect the location of study of university-educated immigrants who recently entered Canada. In this section, these factors are simultaneously accounted for in a multinomial regression model and presented as marginal effects—in other words, as differences in predicted probabilities between the reference category and other categories of each variable. Specifically, the variables included in the model are source country, gender, mother tongue, highest level of education and field of study.[25] The dependent variable, location of study, has four categories based on where respondents said they obtained their highest postsecondary diploma: (1) country of birth, (2) a third country, (3) Canada, in a province other than Quebec, and (4) Quebec. All marginal effects are expressed as a difference from the reference category.

Most adjusted results confirm the results shown in the descriptive analysis. For instance, the adjusted results confirm that immigrants born in the Philippines who arrived in Canada between 2000 and 2011 were the most likely to study in their birth country. More precisely, immigrants from the Philippines were 26 percentage points more likely than those from China to have obtained their highest degree at home prior to coming to Canada (Table 3), for an overall predicted probability of 95% (compared with China's 69%). After the Philippines, the countries with the highest probabilities of immigrants studying in their birth country were France, India and the United States, with adjusted probabilities that were 20 points, 17 points and 14 points higher than China's, respectively (or predicted probabilities that amounted to 89%, 86% and 83%).[26] Among the top-12 source countries, only Iran and the Russian Federation did not have probabilities that differed significantly from China's, indicating that immigrants from these three countries were the least likely to have a degree from their home country (all else equal).

Table 3
Probablility of having a certain location of study across background characteristics, recent[1] university-educated immigrants

	Location of study			
	Birth country	Third country	Rest of Canada	Quebec
	marginal effects			
Top 12 source countries				
1. China (ref.)	...	...	...	...
2. India	0.174*	-0.026*	-0.122*	-0.027*
3. Philippines	0.260*	-0.054*	-0.174*	-0.032*
4. Pakistan	0.124*	0.005	-0.104*	-0.025*
5. Iran	-0.001	0.028*	-0.028*	0.001
6. South Korea	0.098*	0.001	-0.079*	-0.020*
7. Romania	0.113*	-0.034*	-0.132*	0.053*
8. United States	0.140*	-0.050*	-0.126*	0.036*
9. Russian Federation	0.018	0.110*	-0.114*	-0.014*
10. Algeria	0.096*	0.049*	-0.196*	0.051*
11. Colombia	0.087*	-0.003	-0.115*	0.031*
12. France	0.203*	-0.047*	-0.166*	0.009*
All other countries	-0.046*	0.098*	-0.079*	0.026*
Sex				
Male (ref.)	...	...	...	...
Female	0.028*	-0.021*	-0.003	-0.003*
Mother tongue				
English only	-0.043*	0.011*	0.049*	-0.017*
French only	-0.117*	0.066*	-0.041*	0.092*
Other (ref.)	...	...	...	...
Highest university degree				
Bachelor's degree or diploma/certificate above bachelor's	0.159*	-0.105*	-0.035*	-0.018*
Medical degree / master's / PhD (ref.)	...	...	...	...
Field of study[2]				
Science and Technology	-0.010*	0.000	0.013*	-0.004*
Math and Computers	-0.071*	0.020	0.048	0.003*
Engineering (ref.)	...	...	...	...
Health	-0.009	-0.018*	0.035*	-0.008*
Business/Management/Public Administration	-0.103*	0.029*	0.060*	0.013*
Education	-0.012	-0.012*	0.024*	0.000
Humanities/Social Science/Law	-0.005	-0.005*	0.014*	-0.004*
Other	-0.010	0.007	0.001	0.002

... not applicable

* statistically different from the reference (ref.) category ($p<0.05$)

1. University-educated immigrants aged 25 to 64 who immigrated to Canada between 2000 and 2011 and who were aged at least 17 at the time of immigration.

2. The categories "Science and Technology", "Math and Computers" and "Engineering" are based on the Statistics Canada recommended standard on STEM, while the other categories are based on the primary groupings of the 2011 Classification of Instructional Programs. See *Data sources, methods and definitions* for additional details.

Notes: Predicted probabilities are based on multinomial logistic regressions. The marginal effects are at the mean.

Source: Statistics Canada, National Household Survey, 2011.

Conversely, immigrants from China remained the most likely to have a degree from the rest of Canada, with a predicted probability of 21%. Immigrants from all other top-12 source countries were less likely than those from China to have studied in the rest of Canada, especially those from Algeria (indicating that the probability of studying in provinces other than Quebec was close to 0 for Algerians), the Philippines and France.

Contrary to what the descriptive results suggested above, however, immigrants from Algeria had the highest probability of having studied in Quebec (along with Romanian immigrants). For instance, among Algerian immigrants, the predicted probability of studying in Quebec—even after other factors such as language were taken into account—was about 8%.[27] French immigrants were significantly less likely to have a degree from Quebec according to the model results than they were according to the descriptive results (which indicated that 23% of recent French immigrants obtained their degrees in Quebec, compared with a predicted probability of 4% in the multivariate model). This suggests that, for French immigrants, language is likely a dominant factor in the location of study.

The remaining differences between source countries could be the result of circumstances that cannot be measured using survey data. These factors could include country-specific effects, other personal characteristics that are not measured in survey data, or the effect of incentives from immigration programs, for example. Such results tend to confirm, however, that not all countries are necessarily equal when it comes to having the education credentials that are often deemed necessary for integration into the Canadian labour market.

Other factors associated with location of study are also significant

As was the case in the descriptive results, immigrants whose mother tongue is French were more likely than immigrants whose mother tongue is English or another language to obtain their highest degree in Quebec. Immigrants whose mother tongue was neither English nor French (about 80% of this sample) were more likely to obtain a degree in their country of birth, and Anglophone immigrants were more likely to obtain a degree in a Canadian province other than Quebec. These patterns highlight sociolinguistic preferences among immigrants regarding their choice of location for obtaining their highest level of education.

Immigrant women arriving in Canada since 2000 had a slightly higher probability of obtaining a degree in their birth country—about 3 percentage points higher than for immigrant men. Conversely, immigrant women had a lower probability than men of obtaining a degree from a third country. Other gender differences were relatively small.

Compared with recent immigrants who obtained a graduate degree,[28] those who completed only a bachelor's degree were more likely to have done so in their country of birth, by a margin of about 16 percentage points. In contrast, immigrants who completed only a bachelor's degree were less likely to have done so in a third country than their counterparts with a graduate degree by a margin of almost 11 percentage points. This suggests that recent immigrants are more likely to obtain their bachelor's degrees in their country of birth and more likely to obtain their graduate degrees in a location other than their country of birth.

Lastly, the results showed some differences between engineering and other fields of study in choice of location for obtaining the highest degree. For instance, graduates from engineering programs had a probability of studying in their country of birth that was about 7 and 10 percentage points higher than for those who studied in math and computer and business-related programs.

Conclusion

Because immigrants represent a growing portion of Canada's labour force, it is important to understand the issues related to the successful integration of immigrants into the labour market. The place where immigrants obtain their degrees, in particular, matters for labour market outcomes, as immigrants who receive their degrees outside Canada may have a less successful transition into the Canadian labour market, both in terms of earnings and finding a position that closely matches their level of education and field of study. As a result, it is important to know where immigrants obtain their highest level of education.

The current study found that 75% of university-educated immigrants to Canada received their degrees outside Canada—64% in their country of birth and 11% in a third country. Among recent immigrants who have entered Canada since

2000, the proportion who obtained their highest degree outside Canada was even larger (84%). The distribution of earned degrees is not spread evenly, however, as some groups have a disproportionate share of foreign-educated immigrants. Variations by country of birth are especially noticeable even among recent immigrants, as those from certain countries had a much higher probability of having studied in their birth country (such as the Philippines), while those from other countries (such as China) had a higher probability of having studied in Canada.

Because immigrant source countries to Canada have changed over time, and since recent immigrants are those who likely face the most labour market integration challenges, this study examined whether recent immigrants were characterized by location of study differences by source country—after a range of other background factors such as mother tongue, gender, field of study, and type of degree earned were taken into account. For the most part, the multivariate results revealed that location of study differences between source countries remained after accounting for other background factors. The analysis also confirmed that the choice of location for receiving one's highest degree is also related to mother tongue. Immigrants whose mother tongue is French are most likely to study in Quebec; immigrants whose mother tongue is English are more likely to study in a Canadian province other than Quebec; and immigrants whose mother tongue is other than English or French are more likely to study in their country of birth. Other background factors, such as gender and field of study, appear to have a lower but significant impact on the location of study of recent immigrants.

Darcy Hango *is a researcher with Insights on Canadian Society,* ***Lynn Hamilton*** *is an analyst with the Income Statistics Division,* ***Sarah Jane Ferguson*** *is a senior analyst and* ***John Zhao*** *is chief of Census, Analysis and Special Projects Section in the Tourism and Centre for Education Statistics Division at Statistics Canada.*

Data sources, methods and definitions

Data sources

This study uses data from the 2011 National Household Survey (NHS). The NHS benefits from a large sample size and the inclusion of a location of study variable for those with a postsecondary degree or diploma. The NHS was distributed to about 30% of (or about 4.5 million) Canadian households. For purposes of this study, the following restrictions for inclusion were made to the original file: (1) respondents with a bachelor's degree or higher, (2) respondents who immigrated to Canada at age 17 or over, (3) respondents aged 25 to 64. The sample excludes non-permanent residents, and represented 1,261,830 immigrants living in Canada in 2011.

In this analysis, three immigration periods are examined: those who arrived in Canada between 2000 and 2011 (also called "recent immigrants"); those who arrived between 1990 and 1999, and those who arrived in the pre-1990 years. Given the restrictions specified above, the pre-1990 period covers those entering Canada between 1963 and 1989. However, those who came in the 1960s and the 1970s represented a smaller portion of the overall sample. In contrast, recent immigrants (who came in 2000 or later) numbered 742,070 and represented nearly 60% of all university-educated immigrants in Canada. Since they are more likely to face the most difficulty integrating into the labour market, this paper puts more emphasis on immigrants who arrived in 2000 or later. Similar location of study differences between countries were found when the sample was restricted to immigrants who arrived between 2006 and 2011, although the sample size did not allow for a replication of the multinomial analysis.

The field of study variable used in this analysis (shown in Chart 4 and Table 3) conforms to a Statistics Canada recommended standard regarding STEM groupings (science, technology, engineering, mathematics and computer science). As per the recommended standard, the "Science and Technology" category combines the two categories of "Science" and "Technology, except engineering technology"; the "Math and Computers" category stands for the category of "Mathematics and computer sciences" in the recommended standard; and "Engineering" stands for "Engineering and engineering technology" in the recommended standard. The remaining categories are similar to those from the primary groupings of the Classification of Instructional Programs (CIP), except for any codes that have been moved to one of the STEM categories. For example, "Health" corresponds to "Health and related fields" in the 2011 CIP, while "Humanities, Social Science and Law" combines the two categories of "Humanities" and "Social and behavioural sciences and law" in the 2011 CIP. Readers are invited to consult the *Classification of Instructional Programs (CIP) Canada 2011* for additional details.

Notes

1. See the 2011 National Household Survey (Statistics Canada 2011) for these estimates.
2. See Plante (2010).
3. See Ewoudou (2011).
4. See Plante (2010 and 2011) and Zietsma (2010).
5. See Ewoudou (2011), Plante (2010) and Yssaad (2012).
6. See Zietsma (2010) and Plante (2011).
7. See Aydemir and Skuterud (2004), and Picot and Hou (2003).
8. See Picot et al. (2009), and Picot and Sweetman (2012).
9. For example, Rollin (2011) found, after controlling for sociodemographic variables including region of birth, that immigrants who pursued postsecondary education in Canada had higher income in later years. Buzdugan and Halli (2009) used the 2002 Ethnic Diversity Survey and had similar findings—foreign degrees are often devalued resulting in lower earnings. Lastly, using 2006 Census data, Ewoudou (2011) studied the labour market outcomes of immigrants by location of study and found considerable differences.
10. Examples of such studies include Kaushal (2011) for the United States and Friedberg (2000) for Israel.
11. See Nadeau and Seckin (2010) and Zietsma (2010).
12. See Government of Canada (2014), and McMullen and Elias (2011).
13. The United Kingdom, however, was ranked number 14, with 6,656 immigrants during this period.
14. The number of immigrants from Hong Kong with a university degree declined significantly from the 1990s when they ranked fourth to the 2000s when they ranked thirty-seventh. Many Hong Kong immigrants came to Canada in the 1990s prior to the transfer of sovereignty of Hong Kong from the United Kingdom to China in 1997, and the number declined significantly afterwards.
15. The results for immigrants from the Philippines may have been influenced by the Live-in Caregiver Program, which allows qualified individuals from foreign countries to obtain a temporary work permit to provide care to children, elderly individuals, or persons with disabilities in Canada. To apply, participants must have some degree of experience as a caregiver or in a related occupation. The program allows participants to apply for permanent residency after a determined period. Statistics compiled by Citizenship and Immigration Canada indicate that the source country that had the most permit holders in the Temporary Foreign Workers Programs (of which the Live-in Caregiver Program is a part) was the Philippines in each year between 2004 and 2013 (see http://www.cic.gc.ca/english/resources/statistics/facts2013/temporary/3-3.asp).
16. In support of this point, some supplementary analysis using individual year of arrival showed that, in 2000, 78% of immigrants obtained their degrees outside Canada—by 2005, it had increased to 83%, and in 2010 it was 91%.
17. The 19% of Russian-born university graduates who studied in a third country identified the following locations of study, in order of most prevalent: Ukraine, U.S.S.R. (possibly the Russian Soviet Federative Socialist Republic, or any other of the 15 republics that formed the U.S.S.R.), Israel and the United States.
18. This number was derived using the estimates for the proportion of recent immigrants whose highest degree was from the rest of Canada (0.1184), and from Quebec (0.0469): 0.1184 / (0.1184 + 0.0469).
19. According to Chen (2007), respondents in their sample of immigrants to Ontario universities from Hong Kong, China, Japan, Korea and Taiwan said that pull factors from Canada related especially to the 'Canadian environment' (i.e., that it is safe, diverse and multicultural) exerted the most influence on their decision to study in Canada, while pull factors related to the institution itself (such as quality and ranking) also played a crucial role.
20. See Curran et al. (2006) for a review of the literature on gender and migration.
21. This finding may be indicative of lower migration rates for young women, or it may reflect potential cultural differences in developing countries where more value is typically placed on the son's than the daughter's education, although this gap may be closing (see Grant and Behrman, 2010).
22. See Frank (2013).
23. See Finnie (2001), Finnie and Frenette (2003), Gerber and Cheung (2008), Giles and Drewes (2001), Ostrovsky and Frenette (2014) and Walters (2004).

24. According to Lu and Hou (forthcoming), a large proportion of those who obtain the status of international students eventually become permanent residents.

25. Given the link between age at immigration (and year of immigration) and location of study, these variables have not been included in the model described in this section because of the reverse causality effect between these variables. However, these variables were added in supplementary model specifications and their inclusion had no substantial effect on the results.

26. The higher probabilities obtained by immigrants of French or American origin, however, could suggest that these immigrants might experience fewer difficulties getting their educational credentials recognized on the Canadian labour market.

27. It is important to note, however, that the language variable does not capture second language effects that could also have an impact on the location of study, for instance in the case of French-speaking Algerians, or English-speaking Filipinos.

28. This includes immigrants with degrees in medicine, dentistry, veterinary medicine and optometry, as well as master's degrees and earned doctorate degrees.

References

Aydemir, Abdurrahman and Mikal Skuterud. 2004. *Explaining the Deteriorating Entry Earnings of Canada's Immigrant Cohorts: 1966–2000*. Analytical Studies Branch Research Paper Series. Statistics Canada Catalogue no. 11F0019M – No. 225. Ottawa.

Buzdugan, Raluca and Shiva S. Halli. 2009. "Labor market experiences of Canadian immigrants with focus on foreign education and experience." *International Migration Review*. Vol. 43, no. 2. Summer. p. 366-386.

Chen, Liang-Hsuan. 2007. "Choosing Canadian graduate schools from afar: East Asian students' perspectives." *Higher Education*. Vol. 54, no. 5. October. p. 759-780.

Curran, Sara R., Steven Shafer, Katharine M. Donato and Filiz Garip. 2006. "Mapping gender and migration in sociological scholarship: Is it segregation or integration?" *International Migration Review*. Vol. 40, no. 1. February. p. 199-223.

Ewoudou, Jacques. 2011. *Location of Study and the Labour Market Success of Immigrants to Canada*. Culture, Tourism and the Centre for Education Statistics Research Papers. Statistics Canada Catalogue no. 81-595-M – No. 93. Ottawa.

Finnie, Ross and Marc Frenette. 2003. "Earning differences by major field of study: Evidence from three cohorts of recent Canadian graduates." *Economics of Education Review*. Vol. 22, no. 2. April. p. 179-192.

Finnie, Ross. 2001. "Fields of plenty, fields of lean: The early labour market outcomes of Canadian university graduates by discipline." *Canadian Journal of Higher Education*. Vol. 31, no. 1. p. 141-176.

Frank, Kristyn. 2013. "Immigrant employment success in Canada: Examining the rate of obtaining a job match." *International Migration Review*. Vol. 47, no. 1. Spring. p. 76-105.

Friedberg, Rachel M. 2000. "You can't take it with you? Immigrant assimilation and the portability of human capital." *Journal of Labor Economics*. Vol. 18, no. 2. April. p. 221-251.

Gerber, Theodore P. and Sin Yi Cheung. 2008. "Horizontal stratification in postsecondary education: Forms, explanations, and implications." *Annual Review of Sociology*. Vol. 34. p. 299-318.

Giles, Philip and Torben Drewes. 2001. "Liberal arts degrees and the labour market." *Perspectives on Labour and Income*. Vol. 2, no. 7. July. Statistics Canada Catalogue no. 75-001-X.

Government of Canada. 2014. *Canada's International Education Strategy: Harnessing Our Knowledge Advantage to Drive Innovation and Prosperity*. Foreign Affairs, Trade and Development Canada Catalogue no. FR5-86/2014. Ottawa.

Grant, Monica J. and Jere R. Behrman. 2010. "Gender gaps in educational attainment in less developed countries." *Population and Development Review*. Vol. 36, no. 1. March. p. 71-89.

Kaushal, Neeraj. 2011. "Earning trajectories of highly educated immigrants: Does place of education matter?" *Industrial and Labor Relations Review*. Vol. 64, no. 2. January. p. 323-340.

Lu, Yuqian and Feng Hou. Forthcoming. "Trends in transitions from international students to permanent residents in Canada".

McMullen, Kathryn and Angelo Elias. 2011. "A changing portrait of international students in Canadian universities." *Education Matters: Insights on Education, Learning and Training in Canada*. Vol. 7, no. 6. February. Statistics Canada Catalogue no. 81-004-X.

Nadeau, Serge and Aylin Seckin. 2010. "The immigrant wage gap in Canada: Quebec and the rest of Canada." *Canadian Public Policy*. Vol. 36, no. 3. September. p. 265-285.

Ostrovsky, Yuri and Marc Frenette. 2014. "The cumulative earnings of postsecondary graduates over 20 years: Results by field of study." *Economic Insights*. No. 40. October. Statistics Canada Catalogue no. 11-626-X.

Picot, Garnett and Arthur Sweetman. 2012. *Making it in Canada: Immigration Outcomes and Policies*. IRPP Study No. 29. Institute for Research on Public Policy. Montréal.

Picot, Garnett, Yuqian Lu and Feng Hou. 2009. "Immigrant low-income rates: The role of market income and government transfers." *Perspectives on Labour and Income*. Vol. 10, no. 12. December. Statistics Canada Catalogue no. 75-001-X.

Picot, Garnett and Feng Hou. 2003. *The Rise in Low-income Rates Among Immigrants in Canada*. Analytical Studies Branch Research Paper Series. Statistics Canada Catalogue no. 11F0019M – No. 198. Ottawa.

Plante, Johanne. 2011. *Integration of Internationally Educated Immigrants into the Canadian Labour Market: Determinants of Success*. Culture, Tourism and the Centre for Education Statistics Research Papers. Statistics Canada Catalogue no. 81-595-M – No. 94. Ottawa.

Plante, Johanne. 2010. *Characteristics and Labour Market Outcomes of Internationally Educated Immigrants*. Culture, Tourism and the Centre for Education Statistics Research Papers. Statistics Canada Catalogue no. 81-595-M – No. 84. Ottawa.

Rollin, Anne-Marie. 2011. "The income of immigrants who pursue postsecondary education in Canada." *Perspectives on Labour and Income*. Vol. 23, no. 3. June. Statistics Canada Catalogue no. 75-001-X.

Statistics Canada. 2011. *2011 National Household Survey: Data Tables. Selected Demographic, Educational, Labour Force and Income Characteristics (75), First Official Language Spoken (4), Immigrant Status and Period of Immigration (10), Age Groups (8D) and Sex (3) for the Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2011 National Household Survey*. Topic-based tabulations. Statistics Canada Catalogue no. 99-010-X – No. 2011045. Ottawa.

Walters, David. 2004. "A comparison of the labour market outcomes of postsecondary graduates of various levels and fields over a four-cohort period." *The Canadian Journal of Sociology*. Vol. 29, no. 1. Winter. p. 1-27.

Yssaad, Lahouaria. 2012. *The Canadian Immigrant Labour Market, 2008–2011*. The Immigrant Labour Force Analysis Series. Statistics Canada Catalogue no. 71-606-X – No. 6. Ottawa.

Zietsma, Danielle. 2010. "Immigrants working in regulated occupations." *Perspectives on Labour and Income*. Vol. 11, no. 2. February. Statistics Canada Catalogue no. 75-001-X. p. 13-28.